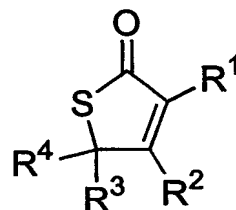


We claim:

:

--1. A compound of formula:



I

wherein:

$R^1 = H$

$R^2 = -OH, -OR^5, -OCH_2C(O)R^5, -OCH_2C(O)NHR^5, -OC(O)R^5, -OC(O)OR^5, -OC(O)NHNH-R^5,$   
or  $-OC(O)NR^5R^6$ , where  $R^5$  is H,  $C_1$ - $C_{20}$  alkyl, cycloalkyl, alkenyl, alkynyl, aryl,

10 arylalkyl, or alkylaryl, and where  $R^5$  can optionally contain halogen atoms;

$R^3$  and  $R^4$ , the same or different from each other, are  $C_1$ - $C_{20}$  alkyl, cycloalkyl, alkenyl, aryl,  
arylalkyl, or alkylaryl;

with the proviso that when  $R^2$  is  $-OH, -OCH_3$ , or  $-OC(O)CF_3$  and  $R_3$  is  $-CH_3$ , then  $R_4$  is not  $-$

$CH_2CH_2OH, -CH_2-(C_6H_5)$ , or  $-CH=CH-CH_3$ , and

15 and the further proviso that when  $R^3$  is  $-CH_2-(C_6H_5)$ , then  $R^4$  is not  $-CH_3$  or  $-CH_2CH_3$ .

2. A compound according to claim 1, wherein  $R^5$  is H,  $C_1$ - $C_{10}$  alkyl, cycloalkyl,  
alkenyl, aryl, arylalkyl, or alkylaryl.

3. A compound according to claim 2, wherein  $R^5$  is H, or  $C_1$ - $C_{10}$  alkyl.

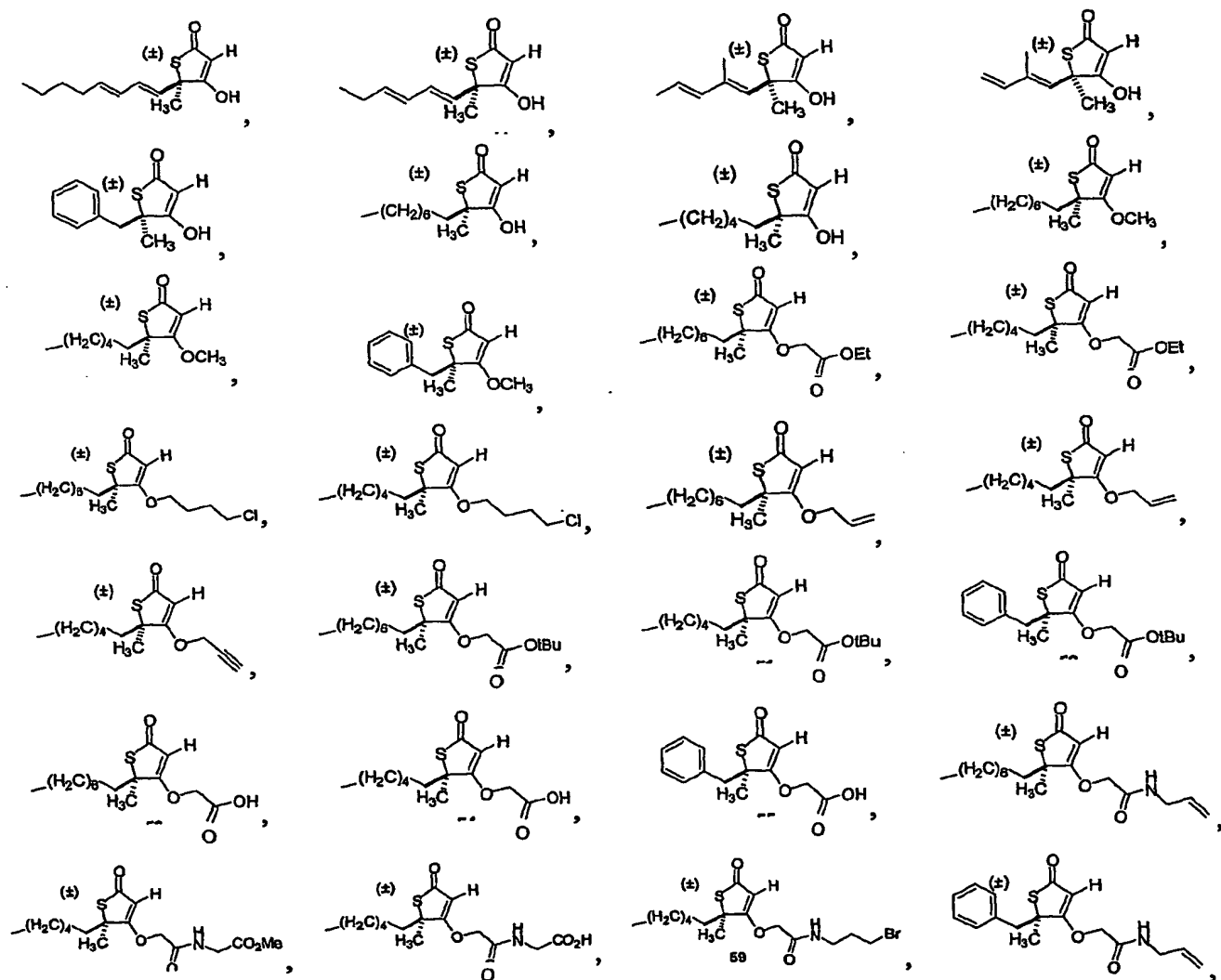
4. A compound according to claim 1, wherein  $R^3$  and  $R^4$  are each independently H,  
20  $C_1$ - $C_{10}$  alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl.

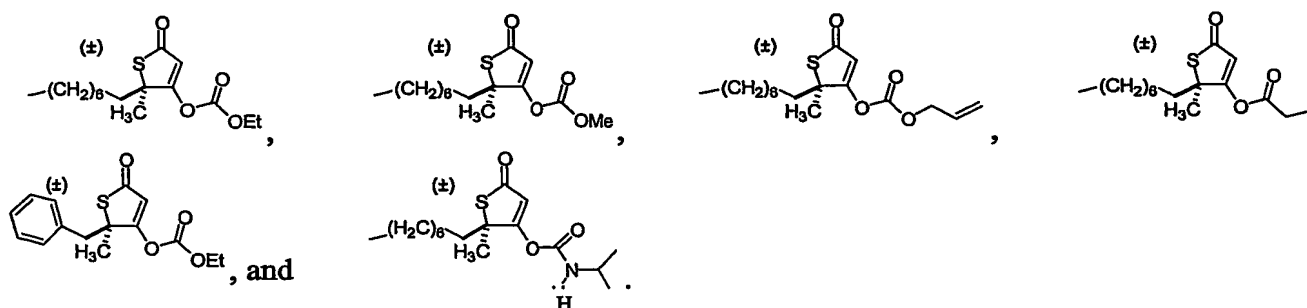
5. A compound according to claim 4, wherein  $R^3$  and  $R^4$  are each independently H, or  $C_1$ - $C_{10}$  alkyl.

6. A compound according to claim 1, wherein,  $R^3$  is  $-H$  or  $-CH_3$ .

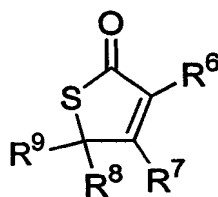
7. A compound according to claim 1, wherein  $R^4$  is  $-nC_6$ - $C_8$  alkyl.

5 8. A compound according to claim 1, wherein the compound is selected from the group consisting of





9. A compound of formula II:



II

wherein

$R^6 = C_2-C_{20}$  alkyl, cycloalkyl, alkenyl, alkynyl, aryl, arylalkyl, or alkylaryl,  $-CHR^{10}OR^{11}$ ,

$-CO(O)R^{10}$ ,  $-C(O)NR^{10}R^{11}$ ,  $-CH_2C(O)R^{10}$ , or  $-CH_2C(O)NHR^{10}$ , where  $R^{10}$  and  $R^{11}$  are

each independently H,  $C_1-C_{10}$  alkyl, cycloalkyl, alkenyl, alkynyl, aryl, arylalkyl, or alkylaryl, optionally containing halogen atoms, but  $R^6$  is not di-, tri-, or tetra-alkyl substituted phenyl,

$R^7 = -OH$ ,  $-OR^{12}$ ,  $-OCH_2C(O)R^{12}$ ,  $-OCH_2C(O)NHR^{12}$ ,  $-OC(O)R^{12}$ ,  $-OC(O)OR^{12}$ ,  $OC(O)NHNH-R$

or  $-OC(O)NR^{12}R^{13}$ , where  $R^{12}$  and  $R^{13}$  are each independently H,  $C_1-C_{20}$  alkyl, cycloalkyl,

alkenyl, aryl, arylalkyl, or alkylaryl, and where  $R^{12}$  and  $R^{13}$  can optionally contain halogen atoms;

$R^8$  and  $R^9$ , the same or different from each other, are  $C_1-C_{20}$  alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl,

with the following provisos:

when R<sup>6</sup> is ethyl, if R<sup>8</sup> and R<sup>9</sup> are not the same, then R<sup>8</sup> or R<sup>9</sup> are not ethyl, -CH<sub>2</sub>COOH, -

CH<sub>2</sub>C(O)NH<sub>2</sub>, -CH<sub>2</sub>-(C<sub>6</sub>H<sub>5</sub>), but R<sup>8</sup> and R<sup>9</sup> can be the same, even if R<sup>6</sup> is ethyl,

and

5 when R<sup>6</sup> is phenyl, and R<sup>7</sup> is -OH, R<sup>8</sup> and R<sup>9</sup> cannot simultaneously be -CH<sub>3</sub> and

-propenyl, and

when R<sup>6</sup> is phenyl, R<sup>8</sup> and R<sup>9</sup> cannot simultaneously be -CH<sub>3</sub> or -CH<sub>2</sub>-(C<sub>6</sub>H<sub>5</sub>).

10. A compound according to claim 9, wherein R<sup>10</sup> is C<sub>1</sub>-C<sub>10</sub> alkyl, cycloalkyl,

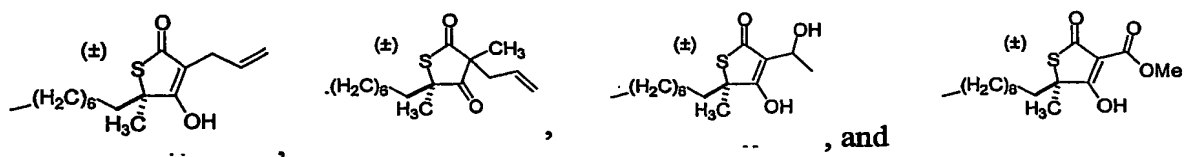
10 alkenyl, aryl, arylalkyl, or alkylaryl.

11. A compound according to claim 9, wherein R<sup>8</sup> is -H or -CH<sub>3</sub>.

12. A compound according to claim 9, wherein R<sup>9</sup> is -nC<sub>6</sub>-C<sub>8</sub> alkyl.

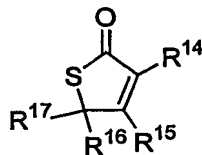
13. A compound according to claim 9, wherein the compound is selected from the

group consisting of:



15

14. A compound of formula III:



III

wherein

$R^{14} = -C(O)R^{18}$ , where  $R^{18}$  is H,  $C_1$ - $C_{10}$  alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl,

optionally containing halogen atoms.

$R^{15} = -OH, -OR^{19}, -OCH_2C(O)R^{19}, -OCH_2C(O)NHR^{19}, -OC(O)R^{19}, -OC(O)OR^{19},$

$-OC(O)NHNH-R^{19}$ , or  $-OC(O)NR^{19}R^{20}$ , where  $R^{19}$  and  $R^{20}$  are each independently H,  $C_1$ -

$C_{20}$  alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl, and where  $R^{19}$  and  $R^{20}$  can each

optionally contain halogen atoms;

$R^{16}$  and  $R^{17}$ , the same or different from each other, are  $C_1$ - $C_{20}$  alkyl, cycloalkyl, alkenyl, aryl,

arylalkyl, or alkylaryl,

with the following provisos:

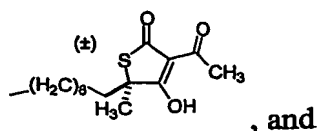
- when  $R^{14}$  is  $-C(O)CH_3$ , and  $R^{16}$  and  $R^{17}$  are not identical, then either  $R^{16}$  or  $R^{17}$  are not

are not geranyl, p-fluorobenzyl, cinnamyl, farnesyl, methyl, or  $-CH_2-(C_6H_5)$ , and

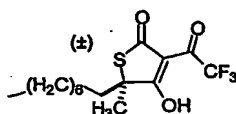
- when  $R^{14}$  is  $-C(O)C_6H_5$ , then either  $R^{16}$  or  $R^{17}$  are not are not methyl.

15. A compound according to claim 14, wherein the compound is selected from the

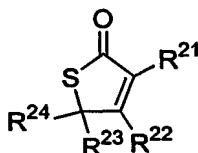
group consisting of:



, and



16. A pharmaceutical composition comprising a pharmaceutical diluent and a compound of formula IV:



IV

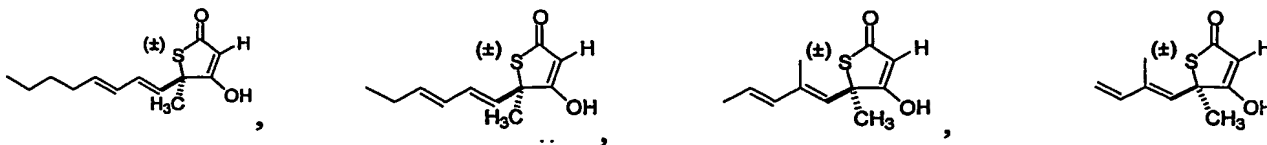
wherein:

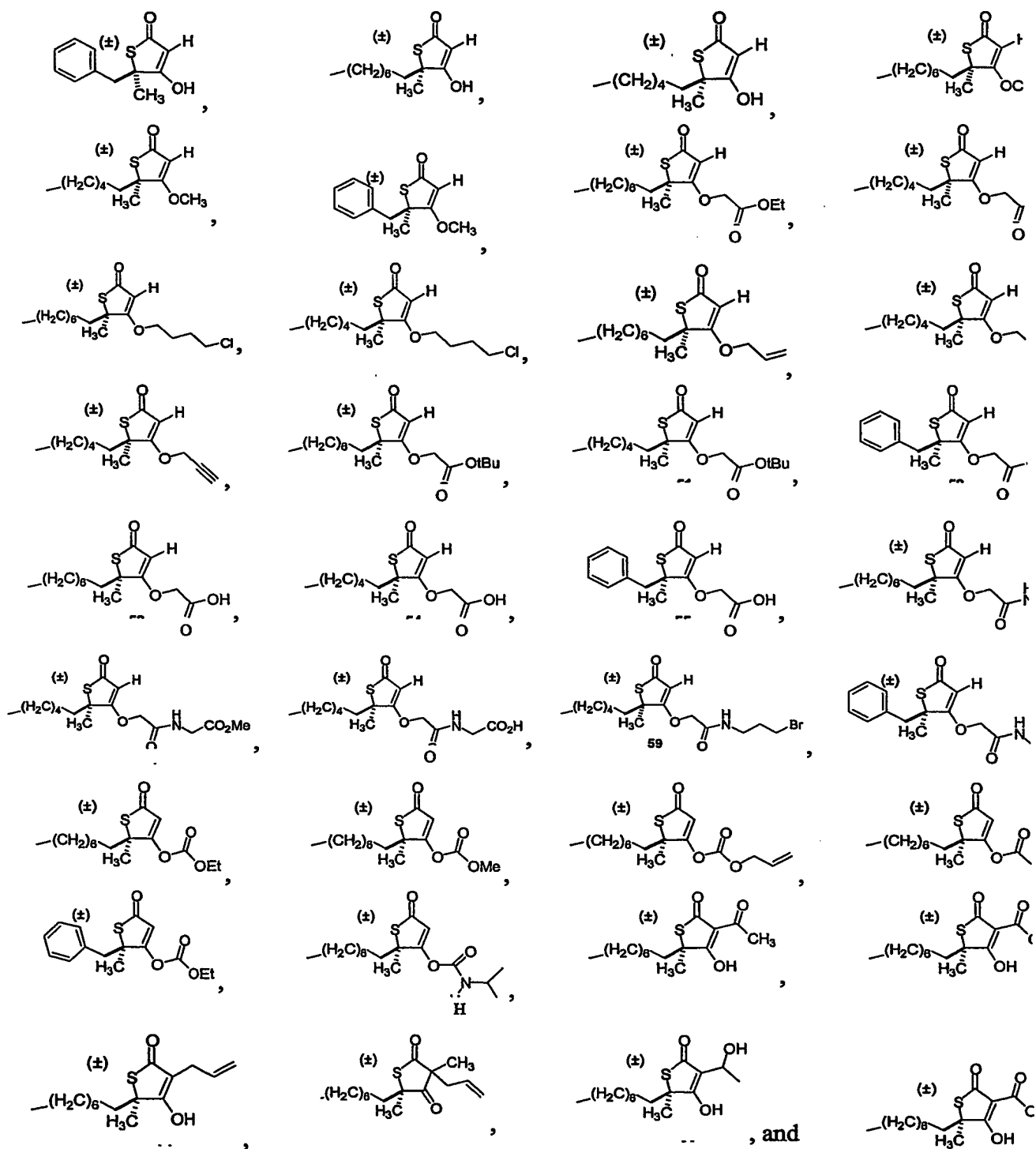
10  $R^{21} = \text{H, C}_1\text{-C}_{20} \text{ alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl, } -\text{CH}_2\text{OR}^{25}, -\text{C(O)R}^{25},$   
 $-\text{CO(O)R}^{25}, -\text{C(O)NR}^{25}\text{R}^{26}, -\text{CH}_2\text{C(O)R}^{25}, \text{ or } -\text{CH}_2\text{C(O)NHR}^{25},$  where  $R^{25}$  and  $R^{26}$  are  
 each independently H,  $\text{C}_1\text{-C}_{10}$  alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl,  
 optionally containing one or more halogen atoms.

$R^{22} = -\text{OH}, -\text{OR}^{27}, -\text{OCH}_2\text{C(O)R}^{27}, -\text{OCH}_2\text{C(O)NHR}^{27}, -\text{OC(O)R}^{27}, -\text{OC(O)OR}^{27},$   
 15  $\text{OC(O)NHNH-R}^{27}, \text{ or } -\text{OC(O)NR}^{27}\text{R}^{28},$  where  $R^{27}$  and  $R^{28}$  are each independently H,  $\text{C}_1\text{-C}_{20}$  alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl, and where  $R^{27}$  and  $R^{28}$  can each  
 optionally contain halogen atoms;

$R^{23}$  and  $R^{24}$ , the same or different from each other, are  $\text{C}_1\text{-C}_{20}$  alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl.

20 17. A pharmaceutical composition according to claim 16, wherein the compound is selected from the group consisting of:





18. A pharmaceutical composition comprising a pharmaceutical diluent and a compound of formula I.

19. A pharmaceutical composition comprising a pharmaceutical diluent and a compound of formula II.

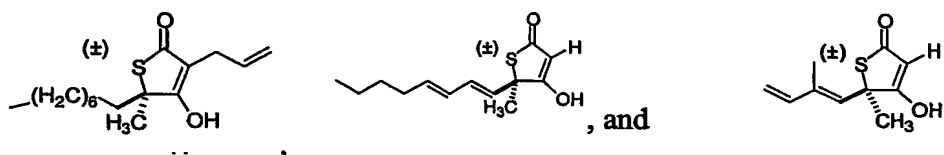
20. A pharmaceutical composition comprising a pharmaceutical diluent and a compound of formula III.

21. A method of inducing weight loss in an animal or human subject comprising administering an effective amount of a pharmaceutical composition according to claim 16 to said subject.

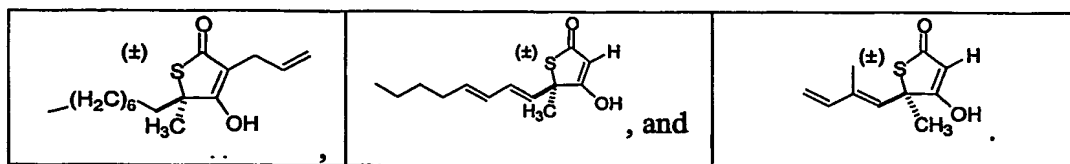
22. The method of claim 21, wherein the subject is a human.

23. The method of claim 21, wherein the subject is an animal.

24. The method of claim 22, wherein the pharmaceutical composition comprises a compound selected from the group consisting of:



25. The method of claim 23, wherein the pharmaceutical composition comprises a compound selected from the group consisting of:



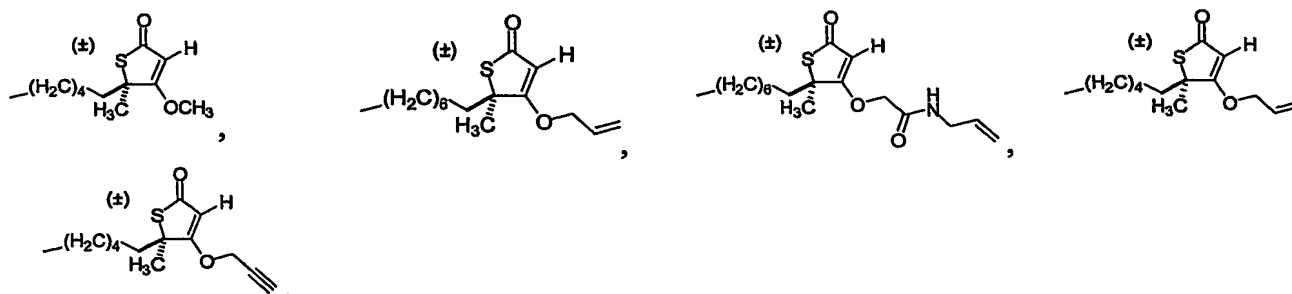


26. A method of treating cancer in an animal or human subject, comprising administering an effective amount of a pharmaceutical composition according to claim 16 to said subject.

5 27. The method of claim 26, wherein the subject is a human.

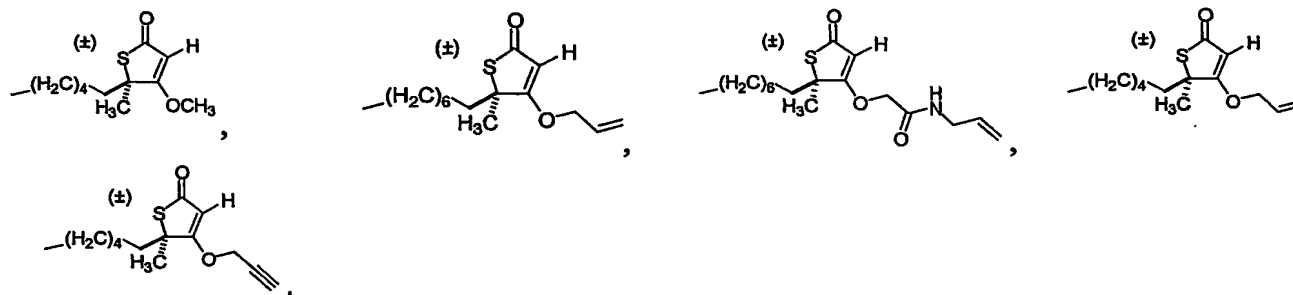
28. The method of claim 26, wherein the subject is an animal.

10 29. The method of claim 27, wherein the pharmaceutical composition comprises a compound selected from the group consisting of:



30. The method of claim 28, wherein the pharmaceutical composition comprises a compound selected from the group consisting of:

15



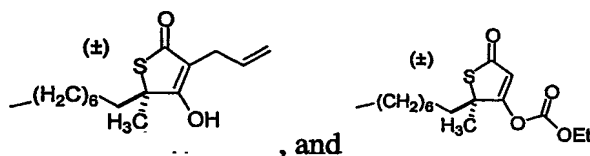
31. A method of stimulating the activity of CPT-1 in an animal or human subject comprising administering an effective amount of a pharmaceutical composition according to claim 16 to said subject.

20

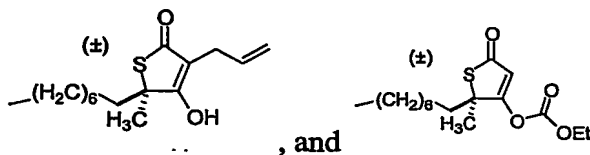
32. The method of claim 31, wherein the subject is a human.

33. The method of claim 31, wherein the subject is an animal.

25 34. The method of claim 32, wherein the compound is selected from the group consisting of:



35. The method of claim 33, wherein the compound is selected from the group consisting of:



36. A method of inhibiting the activity of neuropeptide-Y in an animal or human subject comprising administering an effective amount of a pharmaceutical composition according to claim 16 to said subject.

37. The method of claim 36, wherein the subject is a human.

38. The method of claim 36, wherein the subject is an animal.

39. A method of inhibiting fatty acid synthase activity in an animal or human subject comprising administering an effective amount of a pharmaceutical composition according to claim 16 to said subject.

40. The method of claim 16, wherein the subject is a human.

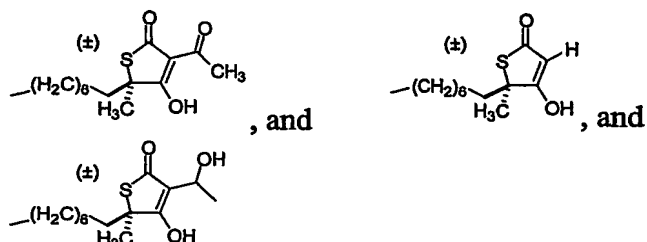
41. The method of claim 16, wherein the subject is an animal.

42. A method of inhibiting growth of invasive microbial cells in an animal or human subject comprising the administration of an effective amount of a pharmaceutical composition according to claim 16 to said subject.

43. The method of claim 42, wherein the subject is a human.

44. The method of claim 42, wherein the subject is an animal.

45. The method of claim 43, wherein the compound is selected from the group consisting of:



5 46. The method of claim 44, wherein the compound is selected from the group consisting of:

